

WE CLAIM:

1. A crude polyolefin product catalyst removal and wash system comprising:
 - an upstream settler vessel defining an internal settlement chamber adapted and arranged for receiving a mixture of a crude polyolefin product and an aqueous wash media and allowing said product and said media to separate therein under the influence of gravity;
 - a crude, catalyst containing olefin polymerization product inlet line in fluid communication with the chamber of said upstream settler vessel;
 - a catalyst killing agent inlet conduit in fluid communication with the chamber of said upstream settler vessel;
 - a first make-up water inlet passageway in fluid communication with the chamber of said upstream settler vessel;
 - a downstream settler system including at least one downstream settler vessel defining an internal settlement chamber adapted and arranged for receiving a mixture of a partially washed crude polyolefin product and an aqueous wash media and allowing said product and said media to separate therein under the influence of gravity;
 - an overhead, partially washed polyolefin product line intercommunicating the chamber of said upstream settler vessel with said downstream settler system;
 - a washed crude olefin polymerization product outlet line in fluid communication with said downstream settler system;

a second make-up water inlet passageway in fluid communication with said downstream settler system;

a first drain line interconnecting the chamber of said upstream settler vessel with an inlet connection to a waste water receiving system; and

a second drain line interconnecting said downstream settler system with said inlet connection.

2. A crude polyolefin product catalyst removal and wash system as set forth in claim 1, wherein said downstream settler system includes primary and secondary downstream settler vessels, each of which downstream settler vessels defines a respective internal settlement chamber adapted and arranged for receiving a mixture of a partially washed crude polyolefin product and an aqueous wash media and allowing said product and said media to separate therein under the influence of gravity, wherein said overhead, partially washed polyolefin product line intercommunicates the chamber of said first settler vessel with the chamber of said primary downstream settler vessel, wherein is included a second overhead product line that intercommunicates the chamber of said primary downstream settler vessel with the chamber of said secondary downstream settler vessel, and wherein said second drain line interconnects the chamber of said primary downstream settler vessel with said inlet connection.

3. A crude polyolefin product catalyst removal and wash system as set forth in claim 2, wherein is included a first centrifugal pump located in said crude, catalyst containing olefin polymerization product inlet line, said catalyst killing agent inlet conduit and said first make-up water inlet passageway being connected to said crude, catalyst containing olefin polymerization product inlet line at one or more points that are upstream from a suction side of said pump, and a second centrifugal pump located in said overhead, partially washed polyolefin product line, said pumps being operable to thoroughly mix the crude olefin polymerization product and the aqueous wash media.